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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Mauro Pedretti

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EXAMINER

FERGUSON, MICHAEL P

ART UNIT

PAPER NUMBER

3679

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DELIVERY MODE

11/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/517,787	Applicant(s) PEDRETTI, MAURO	
	Examiner MICHAEL P. FERGUSON	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10,11,15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,12-14 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/01/05,10/05/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species 1, Subspecies A, Figures 5, 8-10 and 13, claims 1-9, 12-14 and 17-20, in the reply filed on November 9, 2009 is acknowledged.
2. Claims 10, 11, 15 and 16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 9, 2009.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the tetrahedron claimed in claim 17 and the truncated pyramid claimed in claim 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
4. The drawings are objected to because of the following:

In Prior art Figure 1, the different views should be presented as separately labeled figures --Fig. 1a (Prior art)-- and --Fig. 1b (Prior art)--.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

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is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

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- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A “Sequence Listing” is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required “Sequence Listing” is not submitted as an electronic document on compact disc).

5. The disclosure is objected to because of the following informalities:

In the specification, page 1 (line 5) recites “elements according to... Claim 1”. It should recite --elements--.

In the specification, page 1 (lines 31-34) recites “features, in the characterizing part of Patent Claim 1... claims”. It should recite --features--.

Appropriate correction is required.

Claim Objections

6. Claims 1-9, 12-14 and 17-20 are objected to because of the following informalities:

Claim 1 (line 6) recites “characterized in that”. It should recite --the joint element comprising: --.

claim 1 (line 8) recites “member (3) are provided”. It should recite --member (3)--.

Claim 1 (line 9) recites “the form is selected such that”. It should recite --wherein: --.

Claim 1 (line 13) recites “together give”. It should recite --together equal--.

Claim 2 (lines 2-3) recites “characterized in that it is in the form of a plate (9) and may have... for”. It should recite --comprising a plate (9) and having... for receiving--.

Claims 3-8, 12, 14 and 20 (line 2) each recite “characterized in that”. They should each recite --wherein--.

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Claim 5 (line 6) recites "them". It should recite --the tension members--.

Claim 6 (line 1) recites "Claim 6". It should recite --Claim 2--.

Claim 6 (line 2) recites "is designed as a". It should recite --is a--.

Claim 7 (line 3) recites "is formed". It should recite --is formed in the cover--.

Claim 7 (line 6) recites "auxiliary means". It should recite --auxiliary fastening means--.

Claim 7 (line 7) recites "these". It should recite --the auxiliary fastening means--.

Claim 7 (line 8) recites "the outward". It should recite --an axially outward--.

Claim 9 (line 3) recites "have". It should recite --each have--.

Claim 9 (line 5) recites "characterized in that". It should recite --the connecting element comprising: --.

Claim 9 (lines 6-7) recites "element provided". It should recite --element--.

Claim 9 (line 8) recites "the form is selected such that". It should recite --wherein--.

Claim 9 (line 9) recites "elements". It should recite --element--.

Claim 13 (lines 2-3) recites "characterized in that it is polygonal in horizontal projection". It should recite --wherein the connecting element comprises a polygonal body in shape--.

Claim 13 (lines 4-5) recites "of the side walls of the polygonal body formed in this way". It should recite --side wall of the polygonal body--.

Claim 14 (lines 3-4) recites "with the result". It should recite --such--.

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Claims 17-19 (lines 1-2) each recite "11 or 12, characterized in that it". They should each recite --12, wherein the connecting element--.

Claim 20 (line 3) recites "tight". It should recite -- tight to the connecting element--.

For the purpose of examining the application, it is assumed that appropriate correction has been made.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-9, 12-14 and 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claim 1 (lines 1-19) recites "Joint element for introducing tensile and compressive forces, in a manner free of bending moments, into pneumatic structural elements (1) which comprise a sleeve (2), at least one compression member (3), at least two tension members (4) and two spherical caps (5), characterized in that means for fastening the tension members (4) and compression members (3) are provided... vectors of the forces of the at least two tension members (4), of the at least one compression member... added together give zero... the bending moments within the joint element occur symmetrically in relation to the at least one compression member".

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Claim 7 (lines 4-5) recites “which is enclosed by a sleeve (2) of the pneumatic structural element”. It is unclear as to whether each of the pneumatic structural elements, a sleeve, the compression member, the tension members and the spherical caps are positively claimed as elements of the claimed invention in such claims, or whether such elements are only recited as intended use. Accordingly, one is unable to determine the metes and bounds of such claims. Claims 2-8 depend from claim 1 and are likewise rejected.

Claim 1 (lines 10-19) recites “vectors of the forces of the at least two tension members (4), of the at least one compression member (3) and of the bearing forces in the joint element added together give zero, no torques are introduced from the outside... the bending moments within the joint element occur symmetrically in relation to the at least one compression member”. It is unclear as what structural features and/or elements of the claimed invention cause, transmit and/or receive such forces, torques and bending moments. Furthermore, claim 1 fails to clearly and positively recite any structural limitations which enable one to properly determine what structurally constitutes the claimed joint element and such forces.

Claim 9 (lines 1-5) recites “Connecting element by means of which pneumatic structural elements (1) which comprise a sleeve (2), at least one compression member (3), at least two tension members (4) and two spherical caps (5) are connected to static structures, characterized in that”. Claim 14 (lines 3-5) recites “with the result that the pneumatic structural elements (1) are arranged in the manner of spokes”. It is unclear as to whether each of the pneumatic structural elements, a sleeve, the compression

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member, the tension members, the spherical caps, and the static structures are positively claimed as elements of the claimed invention in such claims, or whether such elements are only recited as intended use. Accordingly, one is unable to determine the metes and bounds of such claims. Claims 12-14 and 17-19 depend from claim 9 and are likewise rejected.

Claim 9 (lines 8-9) recites "such that the bearing forces can be introduced into the joint elements". It is unclear as what structural features and/or elements of the claimed invention cause, transmit and/or receive such bearing forces. Furthermore, claim 9 fails to clearly and positively recite any structural limitations which enable one to properly determine what structurally constitutes the claimed connecting element and such forces.

10. Regarding claim 7 (line 6), the word "means" is preceded by the word(s) "auxiliary" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

11. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships which render the claim indefinite are as follows:

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Claim 8 recites “wherein the cover (22) and the large opening (10) have a cylindrical part (18) and a conical or spherical part (21), and at least one O-ring (23) in an O-ring groove (24) is provided in the cylindrical part (18) of the cover (22) and an O-ring (19) in an O-ring groove (20) is provided in the cylindrical part of the opening. Claim 8 fails to clearly and positively recite any structural limitations which enable one to properly determine the structural engagement and the functional relationship between cylindrical and conical or spherical parts and respective O-rings of each of the cover and the large opening, and each of the sleeve and the auxiliary means.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-7, 9, 12-14, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fenner (US 4,065,890).

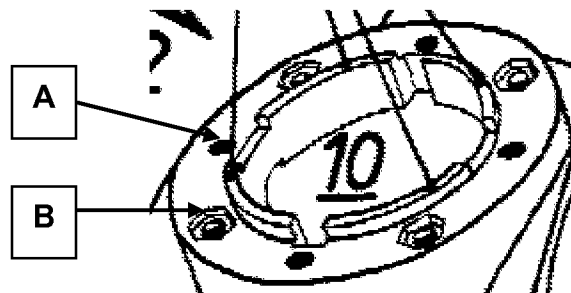
As to claim 1, as best understood, Fenner discloses a joint element **11,40** capable of introducing tensile and compressive forces, in a manner free of bending moments, into pneumatic structural elements which comprise a sleeve **1**, at least one compression member, at least two tension members and two spherical caps **3,4**, the joint element comprising:

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means **A,B** capable of fastening tension members and a compression member (Figure 1 reprinted below with annotations), wherein the joint element is capable of functioning such that:

vectors of forces of the at least two tension members, of at least one compression member and of bearing forces in the joint element added together are equal zero,

no torques are introduced from the outside or diverted to the outside elements, bending moments within the joint element occur symmetrically in relation to at least one compression member (Figures 1,2,8).



As to claim 2, as best understood, Fenner discloses a joint element comprising a plate **11,40** and having a large opening capable of receiving a spherical cap (Figure 1).

As to claim 3, as best understood, Fenner discloses a joint element wherein the plate **11,40** is round (Figure 1).

As to claim 4, as best understood, Fenner discloses a joint element wherein the plate **40** polygonal (plate **40** comprises polygonal portions; Figure 1).

As to claim 5, as best understood, Fenner discloses a joint element wherein means capable of fastening at least one compression member comprise a hole with a screw, and the means capable of fastening at least two tension members comprise

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holes capable of receiving the tension members and fastening the tension members with nuts (Figure 1).

As to claim 6, as best understood, Fenner discloses a joint element wherein the plate **11,40** is a flange (Figure 1).

As to claim 7, as best understood, Fenner discloses a joint element wherein a cover **3,4** is provided and the large opening is formed such that the cover, which is capable of being enclosed by a sleeve **1** of a pneumatic structural element, can be introduced flush into the opening, and auxiliary fastening means are provided for sealing purposes, the auxiliary fastening means capable of closing off the cover and a sleeve in a gas-tight manner in an outward axial direction (Figures 1-2).

As to claim 9, as best understood, Fenner discloses a connecting element **11** capable of functioning such that pneumatic structural elements which comprise a sleeve **1**, at least one compression member, at least two tension members and two spherical caps **3,4** are connected to static structures, the connecting element comprising:

means capable of fastening at least one joint element **40,1**, wherein bearing forces can be introduced into the joint elements (Figures 1,2,8).

As to claim 12, as best understood, Fenner discloses a connecting element wherein the connecting element is a frame structure on which the at least one joint element **40,1** can be fastened and thus forms at least part of a side surface of the frame structure (Figure 1).

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As to claim 13, as best understood, Fenner discloses a connecting element wherein the connecting element is a polygonal body in shape, and at least one joint element **40,1** can be fastened on at least one side wall of the polygonal body (Figure 1).

As to claim 14, as best understood, Fenner discloses a connecting element wherein joint elements **40,1** can be fastened on a plurality of sides of the polygonal body **11**, with the result that the pneumatic structural elements are arranged in the manner of spokes around the connecting element (Figures 1,8).

As to claim 18, as best understood, Fenner discloses a connecting element wherein the connecting element has the external form of a cube **11** and at least one joint element **40,1** can be fastened per side of the cube (Figures 1,8).

As to claim 20, as best understood, Fenner discloses a connecting element wherein the at least one joint element **40,1** is screwed tight to the connecting element (Figure 1).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fenner.

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As to claims 17 and 19, Fenner discloses a connecting element wherein the connecting element has the external form of a cube **11** and at least one joint element **40,1** can be fastened per side of the cube (Figures 1,8).

Fenner fails to disclose a connecting element wherein the connecting element has the external form of a tetrahedron or truncated pyramid. Fenner does not disclose any structural or functional significance as to the specific shape of the connecting element (Figure 10).

The applicant is reminded that a change in the shape of a prior art device, wherein there is no structural or functional significance disclosed as to the specific shape of an element, is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the connecting element disclosed by Fenner wherein the connecting element has the external form of a tetrahedron or truncated pyramid as Fenner does not disclose any structural or functional significance as to the specific shape of the connecting element, and as such practice is a design consideration within the skill of the art which would yield expected and predictable results.

Conclusion

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. The following patents show the state of the art with respect to connecting elements:

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Grenci et al. (US 5,341,567), Jungbluth (US 4,271,654), Pedretti (US 6,543,730) and Blazer (US 1,302,293) are cited for pertaining to connecting elements connecting structural elements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL P. FERGUSON whose telephone number is (571)272-7081. The examiner can normally be reached on M-F (6:30am-3:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571)272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MPF
11/20/09

/Michael P. Ferguson/
Primary Examiner, Art Unit 3679